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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/846,384	05/02/2001	Jun Someya	1190-0496P	4056

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EXAMINER

RAHMJOO, MANUCHER

ART UNIT PAPER NUMBER

2676

DATE MAILED: 10/10/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/846,384

Applicant(s)

SOMEYA ET AL.

Examiner

Mike Rahmjoo

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1- 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki (US Patent 5,987,185) in view of Le (US Patent 6,608,942).

As per claims 1 and 8 Suzuki teaches a detection unit (characteristic extraction means) for detecting bright parts of the image that are adjacent to dark parts of the image, from the image data see for example column 2 lines 45- 67 and column 7 lines 5- 10 (white and black dots); a smoothing unit coupled to the detection unit, for smoothing the bright parts of the image that are adjacent to the dark parts of the image by filtering the image data, leaving the dark parts of the image unsmoothed see for example column 11 lines 28- 39 and figure 25.

However, Suzuki does not teach a display unit coupled to the smoothing unit, for displaying the image data, including the smoothed bright parts of the image and the

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unsmoothed dark parts of the image.

Le teaches a display unit coupled to the smoothing unit, for displaying the image data, including the smoothed bright parts of the image and the unsmoothed dark parts of the image, unsampling and a pixel map representation of a particular color for each pixel see for example column 6 lines 42- 67 and figure 1.

It would have been made obvious to one of ordinary art at the time the invention was made to incorporate the teachings of Le into Suzuki to reduce or eliminate any jagged edges and resolve data from a lower resolution to a higher resolution and represent the image on an FLCD see for example column 6 lines 42- 50.

As per claim 2 Le teaches the image data include data for different primary colors, and the detection unit detects said bright parts separately for each primary color see for example column 11 lines 3- 15.

As per claim 3 Suzuki teaches the image data include a luminance signal, and the detection unit detects said bright parts from the luminance signal see for example column 5 lines 36- 45 (multiple value image data 22 and low pass filter used for bright parts) and figure 4.

As per claims 4 and 9 Le teaches the detection unit also detects edges in the image from the image data, and controls the smoothing unit so that only bright parts of the image that are adjacent to the detected edges are smoothed see for example column 29 lines 15- 18 and column 8 lines 14- 24.

As per claims 5 and 10 Suzuki teaches the detection unit also detects dark parts of the image (black) having at most a predetermined width, and controls the smoothing

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unit so that only bright parts of the image (white) that are adjacent to the detected dark parts having at most the predetermined width (through the calibrated positions of black and white) are smoothed see for example figures 6-11 and 23- 29.

As per claims 6 and 11 Le teaches the image data include data for different primary colors, and the smoothing unit uses different filtering characteristics for the different primary colors see for example column 11 lines 50- 65 and figures 6- 7.

As per claim 7 Suzuki teaches the image data include a luminance signal, and the smoothing unit filters the luminance signal see for example column 12 lines 52- 62 and figure 29.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure; 5,444,798, 5,046,119, 5,126,834, 5,047,853, and 6,563,511.

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Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mike Rahmjoo whose telephone number is (703) 305-5658. The examiner can normally be reached on 6:30- 3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on (703) 308- 6829. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872- 9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

Mike Rahmjoo

October 8, 2003



**MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
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